BEAVER CREEK BRIDGE
(Kukkala Bridge)
(Bridge No. 9C083)
Spanning Beaver Creek at
Kukkala County Rd. (Rd. 4087)
Clatskanie vicinity
Columbia County

0regon

HAER No. OR-87

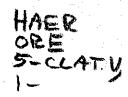
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD Columbia Cascades Support Office National Park Service 909 First Avenue Seattle, Washington 98104-1060

HISTORIC AMERICAN ENGINEERING RECORD



BEAVER CREEK BRIDGE (No. 9C083)

(Kulkala Bridge)

HAER No. OR-87

Location:

Clatskanie vicinity, Columbia County

Kukkala County Road (CR 4087) USGS Clatskanie Quadrangle

UTM Coordinates: 5106300mN, 487700mE

Date of Construction:

ca. 1915 (site 1965)

Engineer:

unknown

Builders:

unknown

Present Owners:

Columbia County

Present Use:

Highway Bridge

Significance:

The Beaver Creek (Kukkala) Bridge is significant as a unique example of pony truss bridge construction using a double-intersection Warren configuration. It is the only pony truss in Oregon which utilizes this type of truss configuration. The structure is also significant as an early example of riveted truss

construction in Oregon.

Report Prepared by:

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Oregon Department of Transportation

Date:

January 1998

I. DESCRIPTION

The Beaver Creek (Kukkala) Bridge consists of a single 48-foot rivet-connected steel pony truss. The truss span has a deck width of 16.5 feet and carries a single 15-foot travel lane. The truss is built up from riveted plate channel girders with web plates at the bottom chord joints. Some modifications have been made to the structure to strengthen the bridge, with the addition of several short sections of angleiron to reinforce structural members and failing joints. There is no nameplate on the structure. The bridge is located in an isolated, pastoral setting along a bypassed section of old Highway 30, now Columbia County Road 4087.

II. HISTORIC CONTEXT

The Beaver Creek (Kukkala) Bridge is a unique bridge in Oregon. It is the only pony truss structure in the state which utilizes a double-intersection Warren configuration, and one of the only three truss bridges in the state which use this configuration. The other two structures with double-intersection Warren trusses are the Crooked River (Elliot Lane) Bridge (ca. 1914) and the Siuslaw River (Richardson) Bridge (1912).

III. HISTORY

The Beaver Creek (Kukkala) Bridge was originally constructed about 1915. The original site is unknown, but is believed to have been near the Oregon coast, possible spanning the Nestucca River. The engineer and the builders are unknown. The bridge is one of the state's earliest extant examples of truss bridge technology using riveted steel plates to strengthen the joints. Prior to about 1910, truss bridges were generally built using pin-connected joints, which allowed for easy on-site construction facilitated disassembly for relation to a new site if needed. However, pin connections were not as strong as fixed joints, and increasing traffic loads and volumes made the stronger riveted joints a requirement for most new highway bridges after the earty 1910s.

IV. PROJECT INFORMATION

This documentation was undertaken by the Research Unit of the Environmental Section of the Oregon Department of Transportation as a result of a proposed highway improvement project being undertaken by the Oregon Department of Transportation. The Beaver Creek (Kukkala) Bridge No. 9C083 will be displaced because of substandard structural condition and a demonstrated inadequacy for rehabilitation.

V. SOURCES

Smith, Norman, and Dykman. Historic Highway Bridges of Oregon. Oregon Historic Society Press,

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Hollinger, Samuel Retired Columbia County Highway Engineer. Personal communication

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Norman, James Request for Determination of Eligibility for the Beaver Creek (Kukkala)

Bridge, ODOT, 1996.